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# EXHIBIT A

# Summary

## Objective:

- To evaluate, and compare, defect performance of four different brushes, under the same environment.

## Tool used:

- 300MM Mirra Messa.

## Results:

- BPTone 212XP material (3920-00307) had the best particle removal rate.

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# Experimental Details For Tool Qualification

## Tools

- S3 300mm Mirra-Mesa
  - Megasonics
  - Brush 1
  - Brush 2
  - SRD
- Metrology
  - KLA-Tencor
  - Oxide BKM recipe

## Methodology

- Cycle 100 dummy wafers through the system daily
- Testfire 4 oxide defect wafers
- Defect Qualification is < 30 adders (delta = post - pre) at 0.13  $\mu\text{m}$
- Cleaning Performance Metrics:
  - Delta = precount – postcount (typically used at customer site)
  - Map-to-map defect analysis not available

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# Experimental Details for Brush Type Evaluation

## Methodology

- Install Brushes and Run Brush Break-in twice
- Cycle 25 dummy wafers through system
- Testfire 4 oxide defect wafers for qualification
- Defect Qualification is < 30 adders (delta = post - pre) at 0.13  $\mu\text{m}$
- Testfire 5+ oxide defect wafers for Using BKM 1.1
- Cleaning Performance Metrics:
  - Delta = precount – postcount (typically used at customer site)
  - Map-to-map defect analysis not available

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# Objective

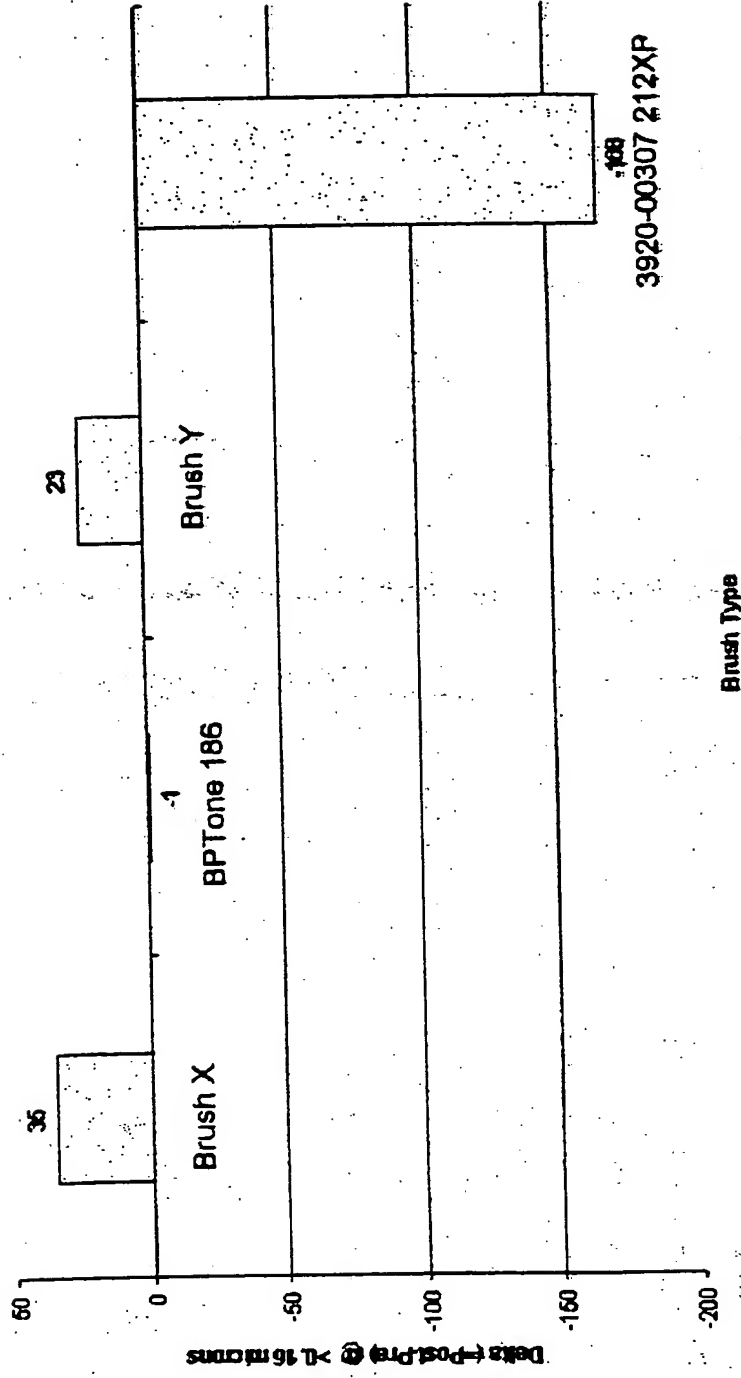
Evaluate Four Different Brushes for Brush Module 2

- Brush types
  - Brush X
  - Brush Y
  - BPT-1 Type 186
  - 3920-00307, BPT-1 Type 212

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# Effect of Different Brush Types



**BPT-1 Type 212 Brushes Has Best Defect Performance**

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